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| **Lesson Title: Literacy Strategies in STEM** |
| **Subject area / course / grade level: 4th grade Mathematics** |
| **Introduction: This lesson will explore attributes of 3-d shapes. Students will use language skills appropriate to their level to describe/explain shapes and their relationships. Students will also connect the shapes to “real life” examples in their world.** |
| **Lesson Length:1 hour** |
| **Materials: Chart paper, chart markers, 3 dimensional shape manipulatives (clear and solid wood), academic vocabulary for both Literature/Language and math, index cards, word sort papers, ELMO camera, projector, smart board.** |
| **Lesson Overview:**  **While working cooperatively, students will cooperatively create graffiti boards to further explore their knowledge of the attributes of 3 dimensional shapes.** |
| **Tennessee Standards:**  **SPI 0406.4.5: Identify attributes of simple and compound figures composed of 2 and 3 dimensional shapes.** |
| **Lesson objective(s):**  **1-The students will correctly identify the attributes of 5 3-d shapes.**  **2-The students will explain the shapes using their communication skills.**  **3-The students will create “graffiti boards” to demonstrate their knowledge of the shapes.**  **4-The students will create an “exit card” used as an assessment of the lesson.** |
| **ENGAGEMENT**   * Word sorts-students will organize words into categories. One set will be done as a class, then one as pairs, and then finally completing one set on their own. * Using the smart board and ELMO camera, students will observe 3-d shapes and list several “real world” examples on the board. |
| **EXPLORATION**   * In smaller groups, students will create graffiti boards. Each poster will be assigned a specific 3-d shape. (Shapes will be placed at each poster for the students to hold and observe). Students will rotate through the room adding additional information to each poster. |
| **EXPLANATION**   * Students will review posters in a “mad minute” round. Then, posters will be reviewed whole group. |
| **ELABORATION**   * Students will be asked to describe “real life” examples of the particular shapes, explaining where they see them outside of the classroom. |
| **EVALUATION**   * On an exit card, students will write several sentences comparing and contrasting two shapes that they choose from the 5 given. |